

Amendments to the Claims

Claim 1 (Currently Amended): A method of producing an ester of creatine and a lower alcohol, comprising the steps of:

a) providing a reaction medium comprising creatine and said lower alcohol; and

b) heating said reaction medium in the presence of an acid catalyst generated *in situ*, said reaction medium being heated to ~~at~~ a temperature between about 35°C and about 50°C to yield said ester.

Claim 2 (Original): The method of claim 1, wherein said acid catalyst is generated by the addition of an acyl halide to said reaction medium.

Claim 3 (Original): The method of claim 2, wherein said lower alcohol comprises ethanol and said acyl halide comprises acetyl chloride.

Claim 4 (Original): The method of claim 3, wherein acetyl chloride is added to the reaction medium at a rate such that the temperature of the reaction medium does not exceed 60°C.

Claim 5 (Original): The method of claim 3, wherein the ratio of creatine to ethanol in said reaction medium is in the range of about 1 gram creatine: 6 to 10 ml acidified ethanol.

Claim 6 (Original): The method of claim 5, wherein said ratio is 1 gram of creatine: 6 ml acidified ethanol.

Claim 7 (Original): The method of claim 3, wherein the mole equivalents of acetyl chloride to creatine is in the range of about 1.4 - 2.0.

Claim 8 (Original): The method of claim 7, wherein said range

of mole equivalents of acetyl chloride to creatine is 1.5-1.6.

Claim 9 (Original): The method of claim 3, wherein said ethanol is denatured ethanol comprising of about 95% ethanol and about 5% ethyl acetate.

Claim 10 (Original): The method of claim 1, wherein said heating step is carried out at a temperature in the range of 35°C and 40°C.

Claim 11 (Original): The method of claim 1, further comprising the step of purifying the creatine ester product.

Claim 12 (Original): The method of claim 11, wherein said purification step comprises cooling the reaction mixture to a temperature in the range of about 6°C to 30°C to effect crystallization of the reaction product, collecting the crystalline reaction product, washing the reaction product, and drying to obtain a purified ester of creatine and said lower alcohol.

Claim 13 (Original): The method of claim 12, wherein said temperature of the cooled reaction is in the range of about 6°C and 25 °C.

Claim 14 (Original): The method of claim 13, wherein said temperature of the cooled reaction is about 6°C.

Claim 15 (Original): The method of claim 12, wherein collection of the crystalline reaction product is performed by filtration.

Claim 16 (Original): The method of claim 11, wherein said purification step comprises crystallization of the reaction

product from ethanol at 35-60°C.

Claim 17 (Original): The method of claim 10, wherein the reaction medium is heated for about 20 hours.